

REMARKS

This is in full and timely response to the above-identified Office Action. The above listing of the claims supersedes any previous listing. Favorable reexamination and reconsideration are respectfully requested in view of the preceding amendments and the following remarks.

Objections/Rejections under 35 USC § 112

The objection to claim 7 and the rejection of claims 3-7 under 37 CFR 112 first paragraph, is respectfully traversed. It is submitted that the term "determining a hyper-polyhedron on a vector space shown by a peal of vectors", is in fact supported by the specification in Figs. 3 and 4 and paragraphs [0023] - [0025] for example.

In paragraph [0025] and Fig. 3, it is set forth that "the generated range of child individuals (inside of outer triangle in Fig. 4) is decided by multiplying by  $\epsilon$ , the vectors of parent individuals up to P1-P3 from the center of gravity G".

In Fig. 4, since the number of parameters selected is set to 2, and the number of parent individuals selected is set to 3 for the sake of explanation, the generated range of the child individuals is the inside of the triangle. However, in paragraph [0025], it is set forth that "When the number of parameters is 3 or more, the generated range of child individuals becomes a space inside a hyperpolyhedron surrounded by plural hyperplanes." The triangle in Fig. 4 corresponds to the "hyper-polyhedron on a vector space shown by a peal of vectors."

Also, the above-mentioned structure is mathematically disclosed by Equation 1. Specifically, the vectors of the child individuals can be obtained by using Equation 1 shown in

paragraph [0023]. More specifically,  $x_k$  of Equation 1 represents the peaks of vectors (peaks of the triangle in Fig. 4) wherein the vectors extending to each parent chromosome selected from the center of gravity  $G$  are respectively multiplied by predetermined times. The vectors of the child individuals obtained by Equation 1 are definitely generated inside the hyper-polyhedron on the vector space which is shown by each  $x_k$ .

Therefore, the claimed limitation of "determining a hyper-polyhedron on a vector space shown by a peal of vectors" is disclosed in the present specification.

Regarding  $\varepsilon$ ,  $\varepsilon$  is a constant, and although the recommended value of  $\varepsilon$  is given by  $\sqrt{(p+1)}$  (see the last 5 lines of paragraph [0024]), it is in fact, not strictly limited to this value and can be a number close to this value. Nevertheless, in the claims,  $\varepsilon$  will be defined as being given by  $\sqrt{(p+1)}$ .

### Conclusion

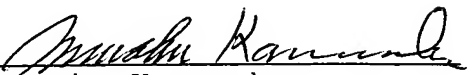
Inasmuch as the subject matter of claims 3-5 has been indicated as being allowable, and the issues pertaining to claims 6 and 7 are overcome for at least the reasons set forth above, it is respectfully submitted that all of the pending claims now stand in condition for allowance.

Favorable reconsideration and allowance of this application are therefore courteously solicited.

If any further amendments are required, please contact the undersigned agent.

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Respectfully Submitted,

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